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**North Mt Lyell Railway, Tasmania
Part 2: Operation and Decline
Mossman Sugar Mill, Qld.**

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EDITORIAL

This issue features the second article on the North Mount Lyell railway on Tasmania's West Coast, together with a short article on the Mossman sugar mill and Queensland: from the extreme north to south of the nation. The North Mt Lyell story continues with the operation of the railway and its decline. It is illustrated with photographs provided by several LRRSA members, including John Buckland.

It is with deep regret that we report the death of John Buckland on 5 June 1989 after a short illness. 'Bucko' held a pre-eminent position among Australia's railway enthusiasts and historians. His railway interests were wide ranging, but the 'little trains' of our forests, mines, cane fields and industries held a special place in 'Bucko's' pursuit of history. He gave his active support to the LRRSA and *Light Railways* over 25 years and his contributions to our journal were always interesting and stimulating. At the time of his death he was actively preparing articles on Christmas Island and the Mapleton Tramway for *Light Railways*.

'Bucko' was always willing to share his experiences with genuine enthusiasts and researchers. His regular and informative correspondence will be missed by many LRRSA members, while he was ever prepared to offer photographs from his extensive collection to assist in illustrating articles. Fortunately, the large historical collection of John L Buckland photographs and negative is to be placed in the National Library in Canberra where it will be accessible to future researchers.

RFM

Cover: A collection of Mt Lyell Railway railcars at Regatta Point c1960. The Riley car used on the North Lyell railway is in the centre, flanked by the Daimler car (left) and the Buda car.

Courtesy Bob Argall/Geoff Thorpe

NORTHERN SOJOURN: MOSSMAN CENTRAL SUGAR MILL

by John Kramer

Introduction

Mossman Central Sugar Mill operates what is almost certainly the most northerly light railway system in Australia. The term 'light railway' should perhaps be used advisedly, as modern engineering and construction techniques are employed on the 610 mm gauge railway network, as they are throughout the rest of the sugar industry in Queensland.

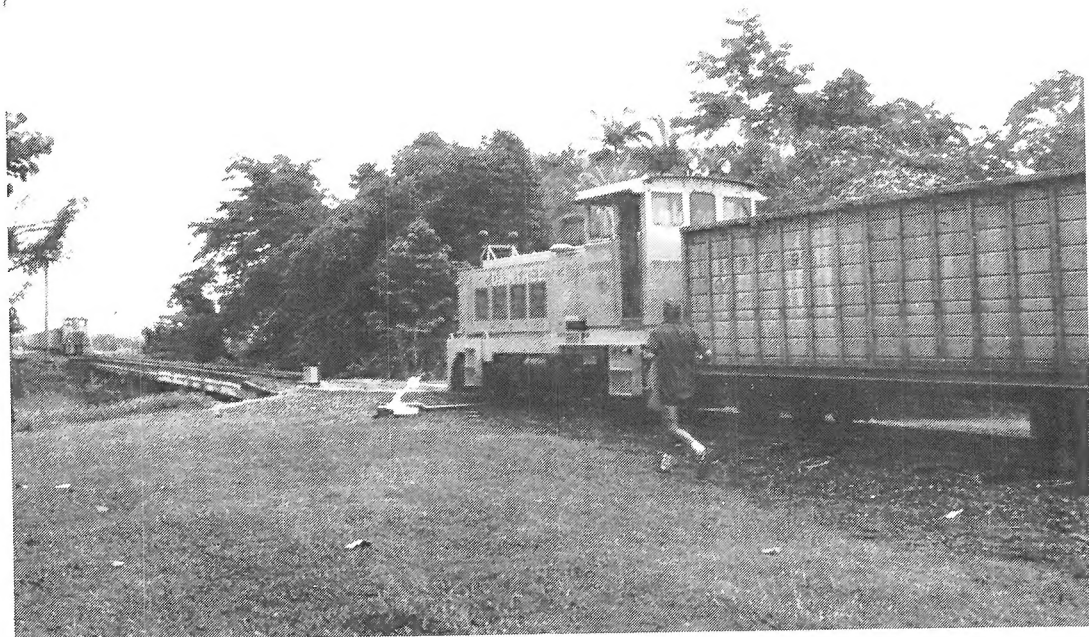
Rail transport of harvested cane, and in some cases raw sugar, is an integral part of Queensland's sugar industry. Road transport cannot compete with rail in this situation, nor is it likely to in the foreseeable future; rather it will continue in its complementary role of bringing harvested cane to a peripheral loading point, from where diesel locomotives haul it to the mill.

Mossman Mill is unique in the Australian sugar industry in that it operates two entirely different

types of services over its 90 km system. First (its *raison d'être*) is the basic function of carrying loaded 10 tonne bogie cane bins to the mill and the return of empty can bins back to the fields. The second type of service is a regular passenger run operated for the use of tourists in the area.

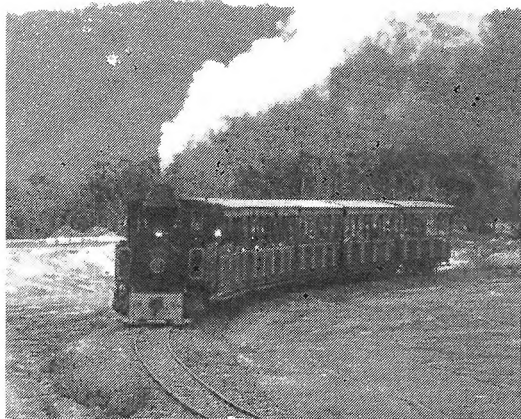
Ballyhooley Steam Express

Initially the tourist train, known as the 'Ballyhooley Steam Express' operated from a station built for this purpose at the mill, generally to a point about 5 kms north of Mossman, then back to the mill. It incorporated a guided tour of the mill whenever it was crushing, together with an audio-visual presentation of the sugar industry. A Bundaberg Fowler 0-6-2T steam locomotive (B/No 6 of 1952) was acquired from the Bundaberg Sugar Company and restored to operating condition, using LP gas as its fuel. Open-sided purpose-built



Bogie Baldwin power: EM Baldwin B-B DH *DAINTREE* with loaded canetainers about to enter the mill yard, while a Com-Eng 0-6-0DH waits to depart with empties.

John Kramer



Bundaberg Fowler 0-6-2T *BALLYOOLEY* (6 of 1952) brings a tourist train into the new station at Mirage Resort, Four Mile Beach, July 1988.

John Kramer

bogie cars were used to convey passengers. This locomotive and its passenger cars are still in service.

Continued growth of the local tourist industry, which incorporated the transition of Port Douglas into a winter haven for southern Australians, not to mention overseas tourists, led the Mossman Sugar Company to consider ways for its 'Ballyhooley Steam Express' to better tap the potential market. The decision to extend a line railway into Port Douglas was both logical and feasible. Between 1900 and 1958 the Port Douglas Shire had operated a line linking Port Douglas and the Mossman mill system. Much of the trackbed was still intact which made the task of rebuilding the line a great deal easier. A second steam locomotive, a Hudswell Clarke 0-6-0 formerly used at the Victoria sugar mill (B/No. 1838 of 1950), was acquired for the new service and named *BALLYOOLEY TOO*.

In July 1988, the limit of tourist operations was a station within the Mirage complex at Four Mile Beach. Trains leave here most mornings at 0930 for Mossman, returning at 1230. The 20 km journey takes approximately one hour each way. Construction of an extension to a new marina complex in Port Douglas itself was well advanced at the time of the author's visit. At the new terminus there is a large station, erected as part of the Mirage Marina complex, and a custom-built turntable for the steam locomotives, particularly the Hudswell Clarke.

With completion of the extension into Port Douglas, tourist trains were to run from here to Mossman mill on an almost daily basis. In addition to this basic service, shuttle trips from the resorts at Four Mile Beach into Port Douglas and back were to be operated, utilising a tiny vintage Malcolm Moore 4-wheel diesel mechanical locomotive which had been out of use for a number of years. A new station was also under construction at the southern end of Four Mile Beach. It too has a turntable, located in the middle of the passing loop.

(Ed. The 1989 time table schedules half day trips at 0930 and 1330 daily (except Christmas Day, Boxing Day and Good Friday), between 1 April and 31 January. Two hour trips also depart Mossman mill station at 1330, Monday to Friday between 1 June and 30 October.)

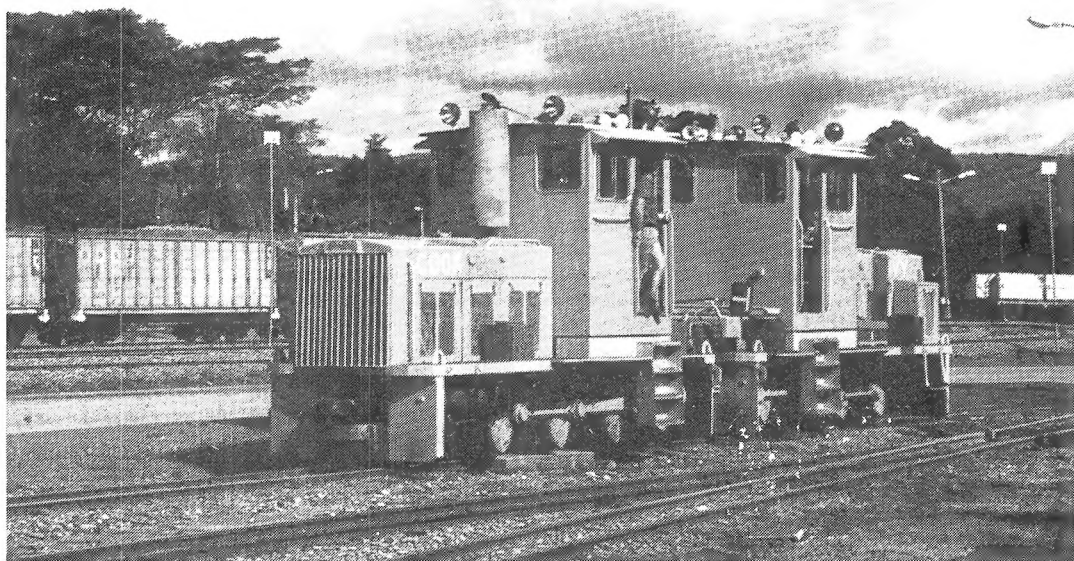
A second Bundaberg Fowler 0-6-2T locomotive (B/No 2 of 1952) has recently been obtained by the mill for use on its passenger services. The locomotive was originally purchased new by Mossman mill and was named *BUNDY*. It was preserved by Alan Robert, in 1971. In July 1988 it was under restoration in the mill's locomotive yard and it was hoped to have it in service by the end of 1988.

Two other steam locomotives are owned by Mossman mill, but it unclear if they will ever be restored to operating condition. These are *IVY*, a John Fowler 0-4-2T (B/No 15947 of 1922), originally from Mossman mill, and *FAUGH A BALLAUGH*, an earlier 0-6-0T which sat at the Port Douglas waterfront for many years prior to its recent retrieval by the mill. Two ex-QGR rail motor trailers have also been acquired for possible restoration. Like *BALLYHOOLEY TOO*, they were acquired from the Belpin family of Sydney. They are in very poor condition and there must be considerable doubt that they will ever run again.

Cane Haulage

During my week in the area, persistent rain hampered normal cane harvesting operations. Without an assured supply of cane, the mill is unable to crush, so in fact operated for several isolated shifts only during my stay. Accordingly, rail operations were curtailed. However, there were still a considerable variety of rail movements as the opportunity was taken for maintenance work on the mill, track, cane wagons and diesel locomotives.

One notable feature of the Mossman mill railway network is the fact that a large percentage of its lines run parallel or close to the extensive network of bitumen roads throughout the area. This makes the job of the railway photographer much easier, as



Mossman Mill Com-Eng 0-6-0D locomotives *COOK* and *IVY* operating in multiple await another turn of duty in the mill yard, July 1988.

John Kramer

access is excellent. The ever changing background of lush green cane fields and high rugged jungle-clad mountains makes a scenic setting for rail photography. The large distances needed to be travelled by railfans from other areas of Australia is really the only drawback.

There is a trend toward operating fewer and longer trains into the mill. The most powerful locomotive in the fleet, *DAINTREE*, a large bogie EM Baldwin built diesel, can haul 50-60 loaded cane bins, giving a pay load of some 500-600 tonnes. Combining two of the smaller locomotives can enable similar loads to be hauled, something which is now done on a regular basis. One of the memorable sights to me was that of *IVY* and *COOK*, coupled back to back, hauling 56 cane bins across the South Mossman River en route to the mill. Other locomotives engaged in cane haulage were *MOSSMAN*, *DOUGLAS* and *FAUGH-A-BALLOUGH*.

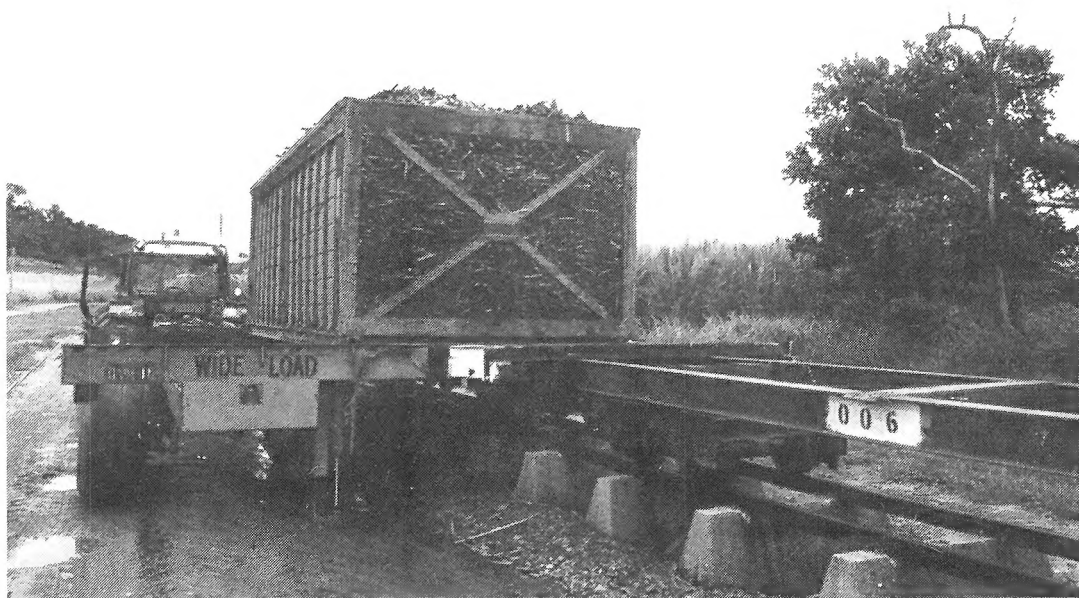
One other locomotive still in use but not mentioned so far, is *MOWBRAY*. This 6-wheel diesel

unit does not appear to be used for cane haulage these days. It pulls maintenance trains and during my visit was noted at or nearby the new wharf complex at Port Douglas, coupled to several ballast wagons and a ballast plough.

Set out below is a table of current locomotives owned by the Mossman Central Mill. Readers wishing to know more about the mill, particularly its earlier history, are referred to John Kerr's excellent book, *Northern Outpost*, published by the Mossman Central Mill Company Limited in 1979 (copies available from the mill at \$5.00 each). The crushing season is usually from mid to late June until November each year. The Ballyhooley Steath Express operates year round.

Acknowledgements

Special thanks to Mossman Central Mill's business development manager, Bernie Milford, Jenny Watson and the crews of the Ballyhooley Steam Express.



Loaded "canetainers" are slid across to rail chassis at a siding, July 1988.

John Kramer

Mossman Central Mill: Locomotive Fleet

NAME	WHEEL ARR'MT	BUILDER	B/No	YEAR BUILT	NOTES
COOK	0-6-0DH	Com-Eng	AL3372	1964	In service 7/88
DAINTREE	B-B DH	EM Baldwin	7303-1-7-77	1977	In service 7/88
DOUGLAS	0-6-0DH	Com-Eng	AL2562	1963	In service 7/88
FAUGH-A-BALLOUGH	0-6-0DH	Com-Eng	AL4190	1965	In service 7/88
IVY	0-6-0DH	Com-Eng	AL4181	1965	In service 7/88
MOSSMAN	0-6-0DH	Com-Eng	B1719	1957	In service 7/88
MOWBRAY	0-6-0DH	Baugley/RMP	3378	1954	Used construction work 7/88
007	4wDM	Malcolm Moore	1042	1943	ex-War Disposals; purchased 1952; OOU 7/88
BALLYHOOLEY	0-6-2T	Bundaberg Fdy	6	1952	Tourist services 7/88
BALLYHOOLEY TOO	0-6-0	Huds Clarke	1838	1950	Tourist services; out of service 7/88
BALLYHOOLEY BUNDY	0-6-2T	Bundaberg Fdy	2	1952	Under restoration 7/88
IVY	0-4-2T	John Fowler	15947	1922	Partly dismantled 7/88
FAUGH-A-BALLAGH	0-6-0T	John Fowler	8733	1901	Partly dismantled 7/88

Note: the mill also owns a Plasser ballast tamper (Type KMX, No.111 built 1976) and a Gemco sleeper replacement machine (No. 521885005293-R854-87 built in 1987).

THE NORTH MOUNT LYELL RAILWAY, TASMANIA

PART 2: OPERATION AND DECLINE

by Ray Ellis

Introduction

The development of the Mt Lyell mining field and the construction of the North Mount Lyell railway were covered in *Light Railways* No.105. This article describes the operation of the railway, the 1903 amalgamation of the North Mt Lyell and Mt Lyell companies, and the subsequent decline of the fortunes of the North Mt Lyell railway. First, we review the construction of the North Mt Lyell smelters which were expected to convert the wealth of the mine into healthy profits for the fledgling company.

Crotty Smelters

The extravagant spending of the North Mt Lyell Company in construction of its railway left it with

major liquidity problems, but it still did not have access to a smelter. The company was therefore forced into the position of having to mine only its richest ores, bag them, and ship them overseas to generate a cash flow. High transshipment costs through Melbourne made this operation uneconomic, and the North Lyell company was virtually forced into the position of having to approach the Mt Lyell company with a view to smelting its ores at Queenstown. Understandably, their rival wished to extract the highest price possible, but after much haggling, a contract was signed for the smelting of some 14 000 tons of ore. Unwittingly, this arrangement was of greater benefit to the Mt Lyell company than first thought, for it was found the the



The main street of Crotty stretched from the railway line to the smelters, which offered a rare emission of smoke in this 1902 scene.
Launceston Examiner, courtesy Melbourne University Press

North Lyell ore contained silica, which gave the perfect mix with the Iron Blow ore for smelting.

By February 1900, the Mt Lyell company found its finances lagging and an approach was made to North Lyell for a merger of the two firms. However, the North Lyell directors, still clutching the original Crotty dream of their own smelter, gave a blunt refusal to the idea.

Director JS MacArthur, the metallurgical adviser to the company, visited the Tasmanian operations in January 1900 with the view that pyritic smelting would suit North Lyell's requirements. The only mine in the field which could provide pyrite was South Lyell, but MacArthur was disappointed with the resource and abandoned the pyritic idea. Later in 1900, he appointed an American, LC Trent, as metallurgist to the company.

Trent arrived on the West Coast in February 1901 and set about his task of constructing a smelter with great gusto. He argued that the best approach was to crush the ore, wash away undesired silica in a concentration mill, then smelt the copper concentrate in furnaces. He was dissatisfied with the selected site for the smelter and chose a new location on a plateau on the southern side of Mt Jukes. Here Trent planned to build furnaces, concentrating mill, converters, an electrolytic refinery, explosives factory and a mill for making copper sheets, which would have made the area the most important industrial site in Tasmania. To honour the company's founder and recognise his long held dream for a smelter, the site and its adjacent town was named Crotty.

Work was pushed ahead with building the smelters, even through the wet winter period when heavy rainfall prevented work. When the weather was kind, work was carried on through the night until, in August 1901, the first furnace was lit. Trent seemed happy with the initial firing and advised the directors in London accordingly. At this time the vital crushing machinery had not arrived, but Trent was confident that once it was in place any problems would be solved.

The huge smokestack at Crotty soon became an indicator of what was happening: if smoke was gushing forth everything was right, if not then something was wrong. Up till December 1901 it seemed that little smoke was issuing from the stack and people began to suspect that all was not well at Crotty. They were soon supported by newspaper reports that North Lyell smelting had failed. The difficulties precipitated a management struggle within the company and picketing of the mine by miners. The London board had to act and they sent

directors DJ Mackay and JS MacArthur along with two Welsh smelting foremen. At Crotty the directors summoned the opposing parties together and there was a heated debate. The result was instant dismissal of Trent and a number of smelter and railway staff. Trent became a continual critic of the North Lyell company.

MacArthur and his Welshmen sought to put things right in the smelting field. He adopted the use of blast furnaces to smelt the ore along with pyrites from the South Lyell mine as flux. Four second-hand furnaces were purchased from Dry Creek in South Australia and the first of these was fired up on 2 September 1902. Again problems arose, which were attributed to the small size of the furnaces. The smelters were closed again by the end of September.

MacArthur's efforts at Crotty compared unfavourably with the brilliant achievements of the American metallurgist, Robert Stich, at the rival Queenstown smelter. On 13 November 1902, Stich captured world headlines by producing copper concentrate from his pyritic process using no coke and, although it was later necessary to use some coke, this use was reduced to less than half a ton by the end of the year. MacArthur returned to London a saddened man, realising that he had ruined his reputation as a metallurgist.

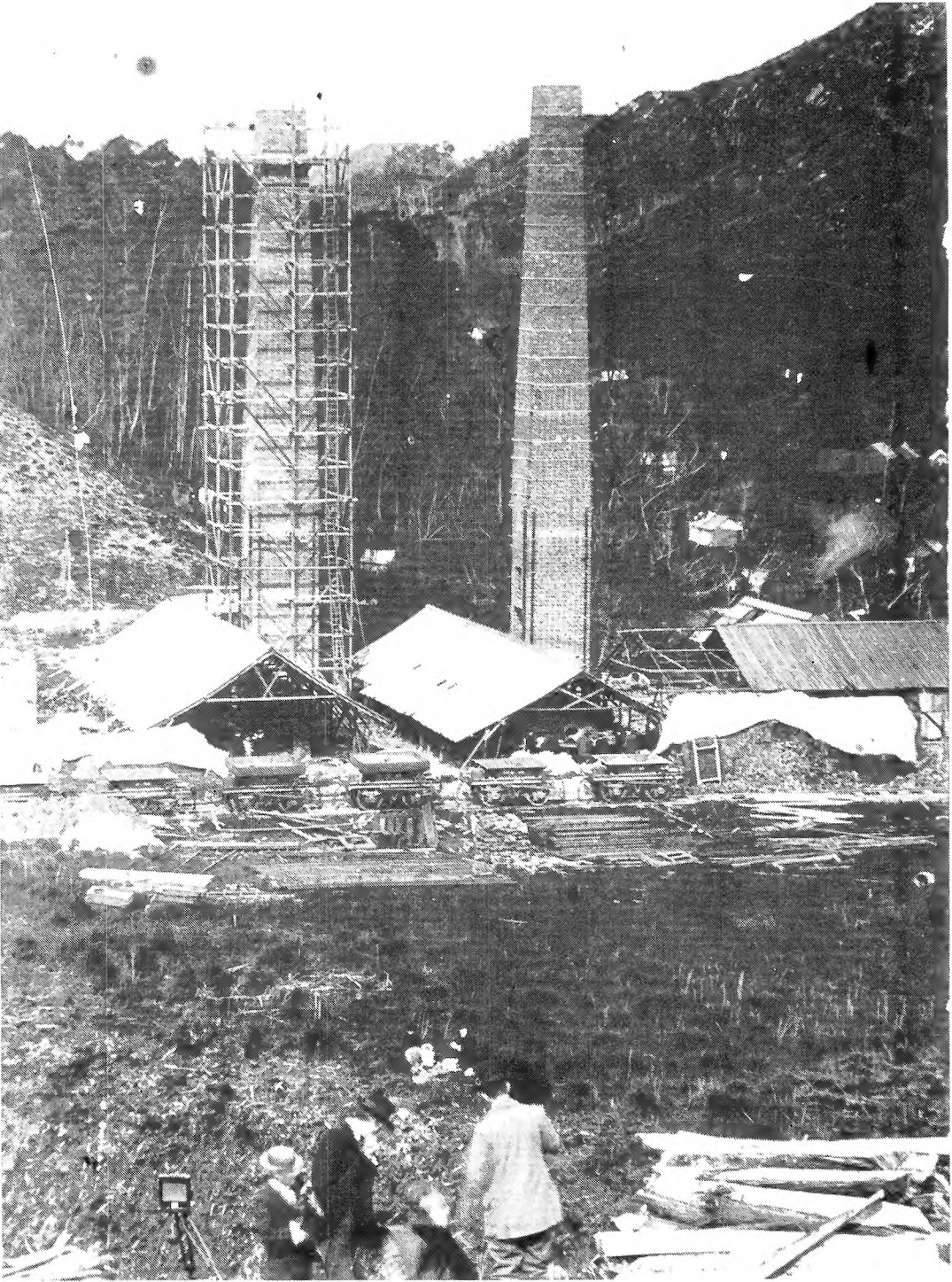
The Fall of North Mt Lyell

Financial Crisis

At the end of 1902 the North Lyell company was in serious financial trouble. Over the years it had extended vast sums of its shareholders funds unwisely in developing a lavish empire that had failed dismally to achieve the ultimate aims of its founder Crotty, or bring any return on the investments of its supporters. While the company had the best mine in the field and built a good railway and port, these did not succeed in making North Lyell the dominant enterprise on the West Coast, nor attract all the Mt Lyell traffic. The smelting venture was a complete failure. Moreover, the Mt Lyell company was still in business and flourishing, with an adequate railway and port, and most importantly, had been extremely successful in its smelting.

Right: Photographers prepare to capture the vision of West Coast industry as symbolised by the rising chimneys of the Crotty smelters in 1901. A string of new NMLR hopper wagons — C62, C52, C35, C47, C59 and C28 — are in the centre of the photograph.

Courtesy Lindsay Witham



The critical factor separating the fortunes of the rival firms was management. While North Lyell had direction from the financial capital of the world at the time by the best men in business, these same men could not afford the time each year to travel half way around the world and this resulted in a complete breakdown of liaison. Some directors had little idea of what Australia was like and cherished the thought that everything for its survival had to be exported from Britain, with little regard to cost. Local sources were bypassed, even when they could supply items more cheaply.

Amalgamation

In the end, linkages within British financial circles brought a solution to the problems. The North Lyell Chairman, Mackay, approached a fellow Scot and financial adviser, Lord Glendyne, Robert Nivison, who was regarded as one of the world's most influential financiers. Nivison's wise counsel kept the company together. He quickly realised that a merger of the two great companies was essential and set about reforming the North Lyell board to include seven trusted financiers who shared his views. Nivison made a friendly and secret approach to Hebben, the London secretary of the Mt Lyell company, with a merger proposal and received a favourable reaction.

In the meantime, the North Lyell board had decided to send out to Tasmania an independent expert to report on the mine and smelters, as well as the prospects of both companies. They chose William Rich, who had served as General Manager of the great Rio Tinto copper mines in Spain from 1888 to 1900. To accompany him, the board sent its newest member, J Angus, who had been secretly briefed by Nivison to discuss merger plans with Mt Lyell company officials in Australia. Rich and Angus arrived late in 1902 and carried out their inspection of the mine and smelter as well as making an assessment of the whole field. Rich's report to the board was blunt: amalgamate or liquidate!

Before leaving Tasmania, Rich and Angus met secretly with Mt Lyell company directors in Launceston in February 1903. After two days of discussions, they drew up an agreement for amalgamation. However, the task of making the merger a reality was a complex one and it was not officially ratified until 16 July 1903. A new company, the Mount Lyell Mining & Railway Company Ltd, was registered in Melbourne in August 1903. It became the owner of two mines, two railways and two ports.

Since rumours of the secret Launceston meeting early in 1903 had leaked out, speculation was rife

as to which company's facilities would survive. Queenstown revelled in the excitement of knowing that henceforth all ore would be smelted there, whereas at Crotty a deathly quiet began to spread as the smelters were closed down and, at the end of May 1903, a great exodus began as the workers were paid off. By the end of the following month, Crotty was deserted. Similar evacuation took place in other towns and settlements along the North Lyell railway. The port at Kelly Basin would function as such to serve the evacuation and then close. The mine and railway alone were to survive, although the railway only existed in a secondary role as a shadow of its former self and would eventually close.

A similar situation existed in the mines. By the end of 1903, only five of the forty or so companies which had existed in the late 1890's were working and only one of these was producing copper. A rise in copper prices brought a mining revival in 1905 and 1906, but the general trend was toward consolidation and, in the years leading up to the First World War, the Mt Lyell company increased its hold on the field. One by one, the survivors closed or became part of the company through direct or indirect purchase. From 1933 onwards, the Mt Lyell company worked the field without a rival.

The North Lyell Railway

Sources of Information

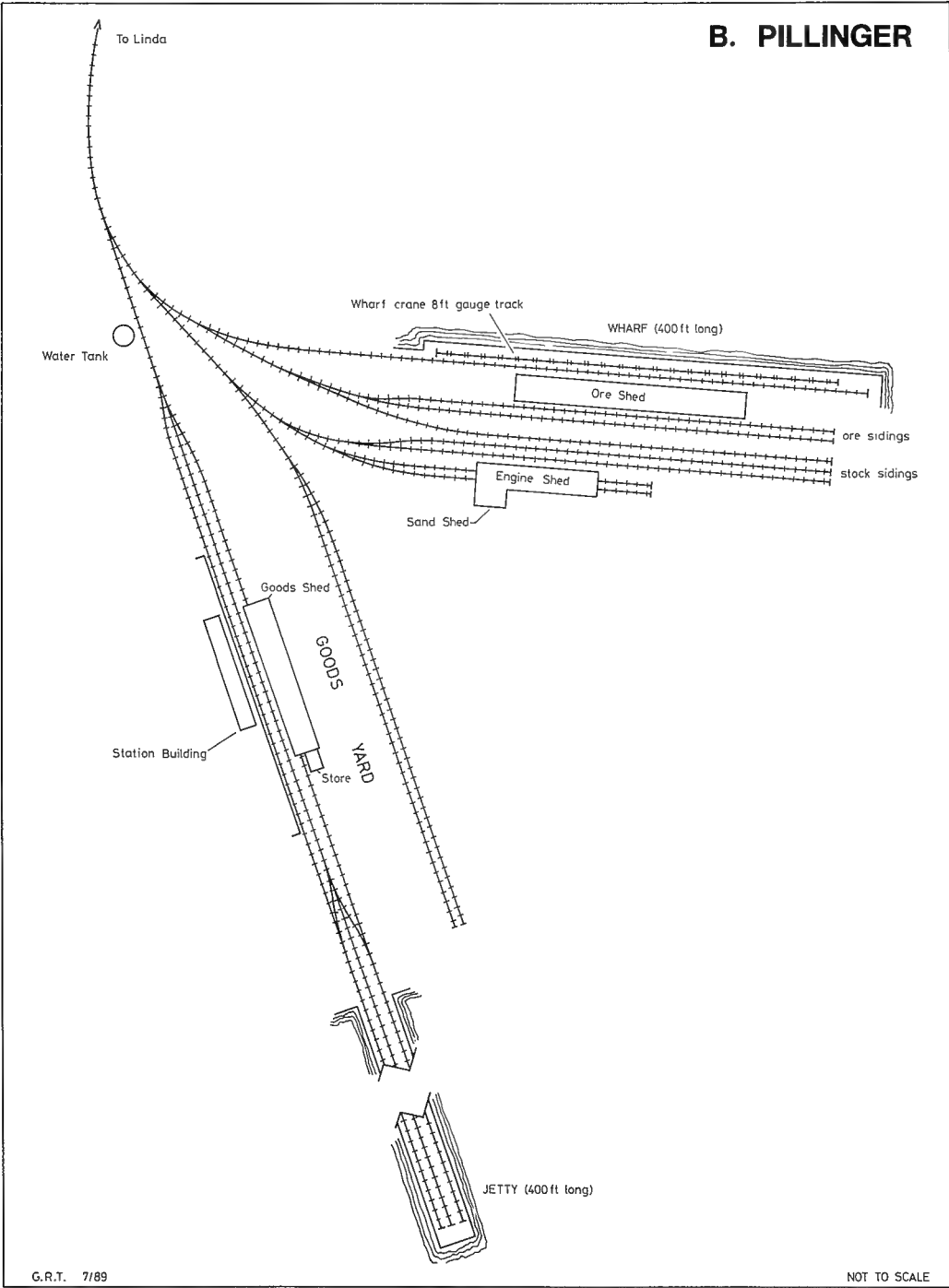
The researcher into the North Lyell railway is fortunate that, despite the early closure of the line, there are a couple of full and detailed descriptions of the railway in its heyday. These are contained in the records of the Mt Lyell Company held by the Tasmanian Archives and Melbourne University Archives, and in the *Mt Lyell Standard* newspaper, a file of which is also held by the Tasmanian Archives. Later reports indicate that the railway changed little after the 1903 merger until its closure in the 1920s.

Kelly Basin

The terminus and headquarters of the railway at Kelly Basin (officially named Pillinger) were the most extensive facilities on the line. Here there was a large weatherboard station building, 123 ft (37.5 metres) long, which served a high level platform with wooden facing. The building housed a ticket office, vestibule, public waiting room, ladies waiting room, lavatories, station master's office, locomotive superintendent's office and lamp room.

Across the track was a 140 ft (42.7 m) long galvanised iron goods shed with a through siding and housing offices for the goods clerks, customs

B. PILLINGER



officials and a customs warehouse bond store. In the adjacent goods yard, one of the sidings was equipped with a 20 ft long 15-ton capacity Howe wagon weighbridge and attendant office. The local office of the Union Steamship Company was also located in the goods yard.

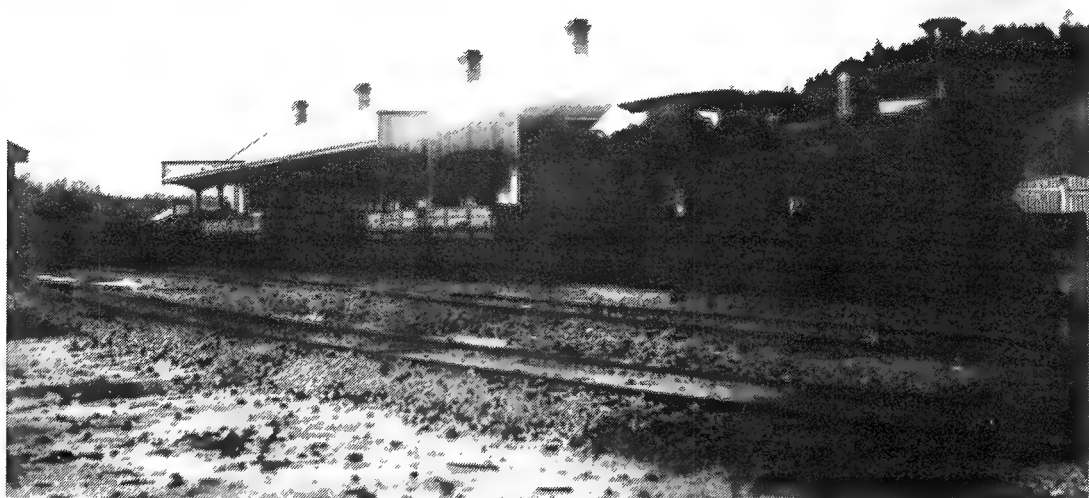
Nearby stood the locomotive shed and machine shops. The engine shed was 100 ft (30.5 m) long and had two lines capable of holding four locomotives, with concrete inspection pits running the full length of each road. The roof was fitted with the usual smoke troughs and chimneys, and along one side was a fitter's bench and small drilling machine. A sand house with drying furnace was attached to the shed and two water standpipes were provided between the engine roads for washing out purposes. Attached to the main shed was a store room, machine shop and blacksmith's shop. Two locomotive water standpipes were located at each end of the shed and these were fed from an overhead circular wrought-iron 2,000 gallon water tank on cats iron pillars situated at the throat of the yard. All these buildings were of galvanised iron.

Opposite the engine shed was a 200 ft (61 m)

galvanised iron shed for ore processing. It contained a large bin into which railway hopper bodies were emptied by steam crane. The ore was passed through a crusher and moved by elevator to a larger storage bin, from which it was bagged and weighed. The machinery, powered by a portable steam engine, was capable of treating 20 tons of ore per hour. Use of the shed for ore processing ceased in 1903 and by early 1904 it had been converted into what was termed a carriage shed. A siding (or sidings) was laid into the shed and a paint shop attached. Facilities for carriage and wagon maintenance, as well as storage, were provided.

The station area was reticulated with water from a dam on the Bird River, 3 miles away, which fed the loco water tank, station facilities and a number of fire hydrants strategically placed in the area. The dwellings available to resident staff consisted of three weatherboard cottages of four rooms each, one of seven rooms, and two weatherboard and paling cottages of three rooms each.

The port facilities were laid out on a grand scale and Kelly Basin was considered one of the best-equipped of the smaller Australian ports. Wharf



A mixed goods train ready to depart from Kelly Basin station c1902.

State Archives of Tasmania, courtesy Lou Rae



Kelly Basin was still an active port when this scene was photographed early this century. The steamers *Natone* and *Kawatiri* are alongside the main wharf.
State Archives of Tasmania, courtesy Lou Rae

facilities comprised a pier and inner or breasting wharf. The 400 ft (122 m) long railway pier was used for interstate and overseas vessels and was capable of being berthed two each side. Both this and the inner wharf were provided with rail lines. One set of lines on the latter was laid to 8ft (2440 mm) gauge for a 10-ton capacity travelling steam crane, which was used to feed the ore shed as well as load and unload ships.

The township at Kelly Basin was officially known as Pillinger after Alfred Pillinger, a well-liked and respected Tasmanian politician, who was Minister for Lands & Works in the 1880s and 1890s. The township extended from the development to the west of the railway station for some one to two miles around the bay to the eastern side. At the height of North Lyell operations in the summer of 1902-03, Pillinger had a population of some 1000 people. The main part of the town was built on a hill overlooking the railway with the usual collection of houses, stores, four hotels, library, hall and Catholic church.

The headquarters of both the company and railway were located here, with offices near the station, company houses in the town and on the hill overlooking the harbour were the stately residence of, first the Chief Superintendent and, later, the General Manager. The area to the east served the company brickworks and sawmill, and most of the residents in this area were probably employed at these two facilities.

The Main Line

The main line of the railway left Kelly Basin station yard and within 20 chains from the station crossed the Fysh River on a long (114 m) low trestle bridge. It then skirted the head of the bay, crossing a swamp, for about a mile to an area known simply as The Brickworks. It was here that the contractors, Baxter (Sadler, had established their main base camp and built a single road engine shed.

Just before the engine shed, a siding led onto an 800 ft (244 m) long railway wharf which stretched out into the bay, with a head at right angles to the

main pier. There was a 12 ft depth of water available to vessels and the deck was equipped with a dual 3 ft 6 in (1067 mm) and 2 ft (610 mm) gauge siding. The purpose of the pier was to service the company brickworks and sawmill which were served by a railway siding from the main line. The 2ft gauge line, as well as having a small internal system within the brickworks-sawmill area, provided a more direct connection to the wharf. It was either horse or hand operated and crossed the main line on the level to interlace with the 3 ft 6 in. gauge siding on the wharf.

The brickworks were equipped with Bradley & Craven Patent Brick Presses capable of producing 1500 bricks per hour. It is probably bricks from this works, stamped NML, which are still to be found in profusion at various sites along the railway formation to this day. The sawmill was capable of producing 1000 super feet of timber per hour from logs felled from the large stands of King William Pine and White Pine which existed along the railway route.

After leaving the brickworks, the railway headed east across fairly flat country for about two miles to join the northern bank of the Bird River. The line and river now turned north, with the railway commencing seven miles (11 km) of continuous climbing which took it through densely forested country up to Purgatory Gap and the Divide. There were some four miles of 1 in 40 grade in this section and numerous 5 chain curves. The line followed the northern bank of the Bird River, in some places 50 ft (15 m) above the stream, through heavy country requiring some deep cuttings, many 40-50 ft in depth and at the 3 mile to a depth of 100 ft (30.5 m). It was here that the first tunnel was located (Part 1, *LR.105*, p.11), which was later opened out into a cutting, probably as a result of difficulties in maintenance. Watering facilities were provided for locomotives at the 4 mile from three 400 gallon capacity tanks mounted on a wooden stage. These were fed from a nearby permanent creek.

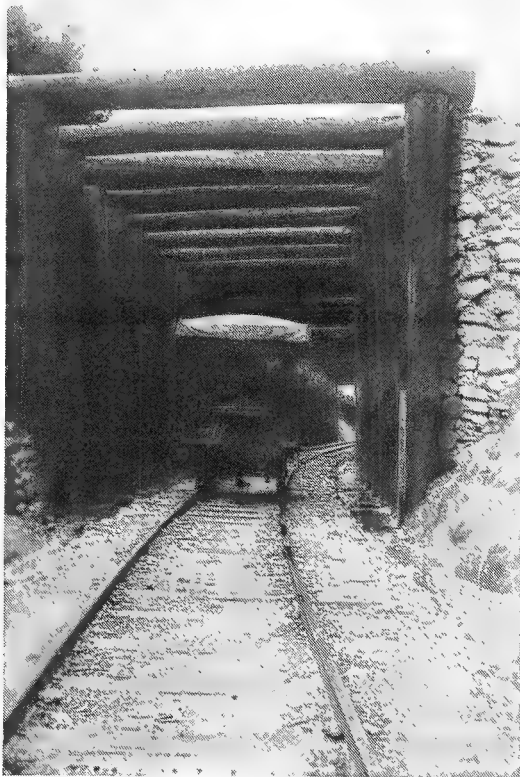
At the confluence of the Bird and Nora Rivers, the line crossed the Bird on a 90 ft (27.4 m) long trestle. Just prior to this trestle, a deadend siding turned off to serve a timber loading platform. From here a 2ft gauge tramway went into the surrounding forest.

Ten miles from Kelly Basin was Purgatory Gap (or The Gap as it was more commonly known) 913 feet (278 m) above sea level. Here there was a short 6 chain siding, probably deadended, for passing trains. A 70 ft deep cutting here was all that remained of the 234 ft 'tunnel' originally intended

to pierce the gap. Recent visitors to the site have found traces of at least three attempts to drive this tunnel, or possibly deepen the cutting.

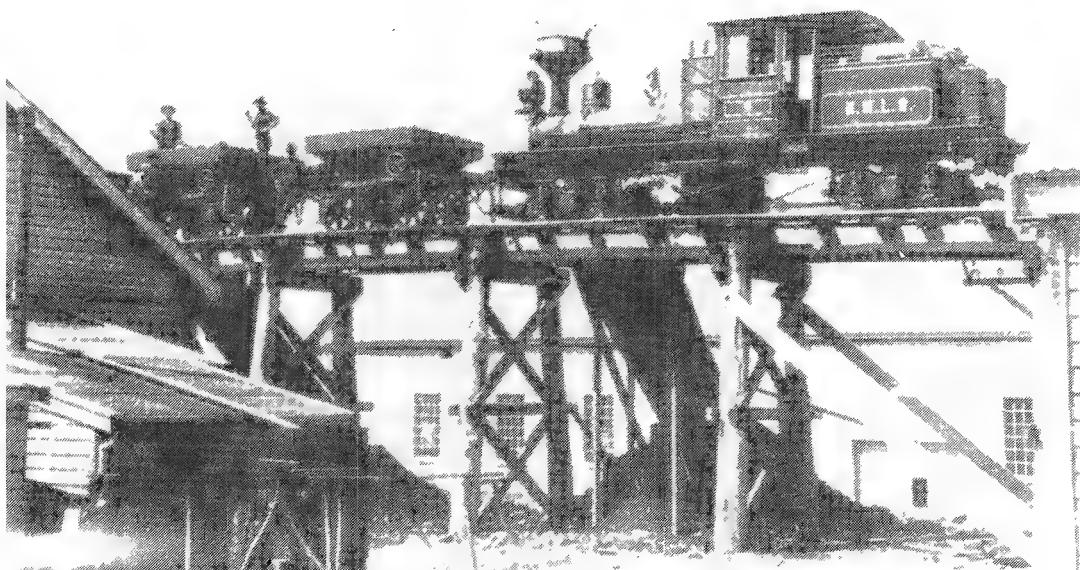
The line continued to climb, with 1 in 40 (about 50 chains) and 1 in 50 grades, to the Divide at 11 miles (296 m). Several trestle bridges were crossed, including one over 600 ft (183 m) and 80 ft high over the Crotty River. The line then descended into the valley of the Crotty River.

Darwin (13 m 21c) was the first town served by the railway going north. It owed its existence first to the sawmill there and later to the nearby limestone quarries. In 1902-03 the population had grown to some 150 people, but a larger number were also scattered in the small camps of wood cutters in the surrounding forests. Sawmill operations were responsible for the survival of the settlement and the railway after the merger. A short 2 ft gauge



This postcard scene is believed to depict the cutting at Purgatory Gap on the North Lyell Railway.

F Stamford collection



NMLR Shay locomotive No.5 (Lima 697/1902) hauling hopper wagons on the trestle at Crotty Smelters.
Winters Studio courtesy IK Winney

tramway connected the sawmill with the station. Geoffrey Blainey, in *The Peaks of Lyell*, mentions a railway refreshment room at Darwin, but this is not supported by other reports.

Crotty Branch

After leaving Darwin, the line crossed the Andrews River, before reaching the junction for the smelters branch at 15m 21c. The branch made a triangular connection with the main line. There was no station as such, just a signal box which controlled the three points and three home signals, one each on the up and down sides of the junction on the main line and one controlling the exit from the branch. The triangle had 5 chain radius curves and on the main line there was a circular wrought iron tank of 2000 gallon capacity, on cast-iron columns and fed from a water supply originating at Mt Jukes, 2 miles away.

The branch line climbed all the way to the smelters yard, a distance of 2 m 22c (3.6 km). The smelter site was only half a mile or so from the main line, but considerably higher. The yard had numerous rail sidings serving the various parts of the works.

There were two Howe wagon weighbridges in the yard, and a travelling steam crane, weighing 7 tons, running at 60 lb boiler pressure and with a 2 tons

lifting capacity, was located here. A loop siding served a timber loading platform. From here a 2ft gauge tramway ran around the base of Mt Jukes for about 1½ miles to a sawmill.

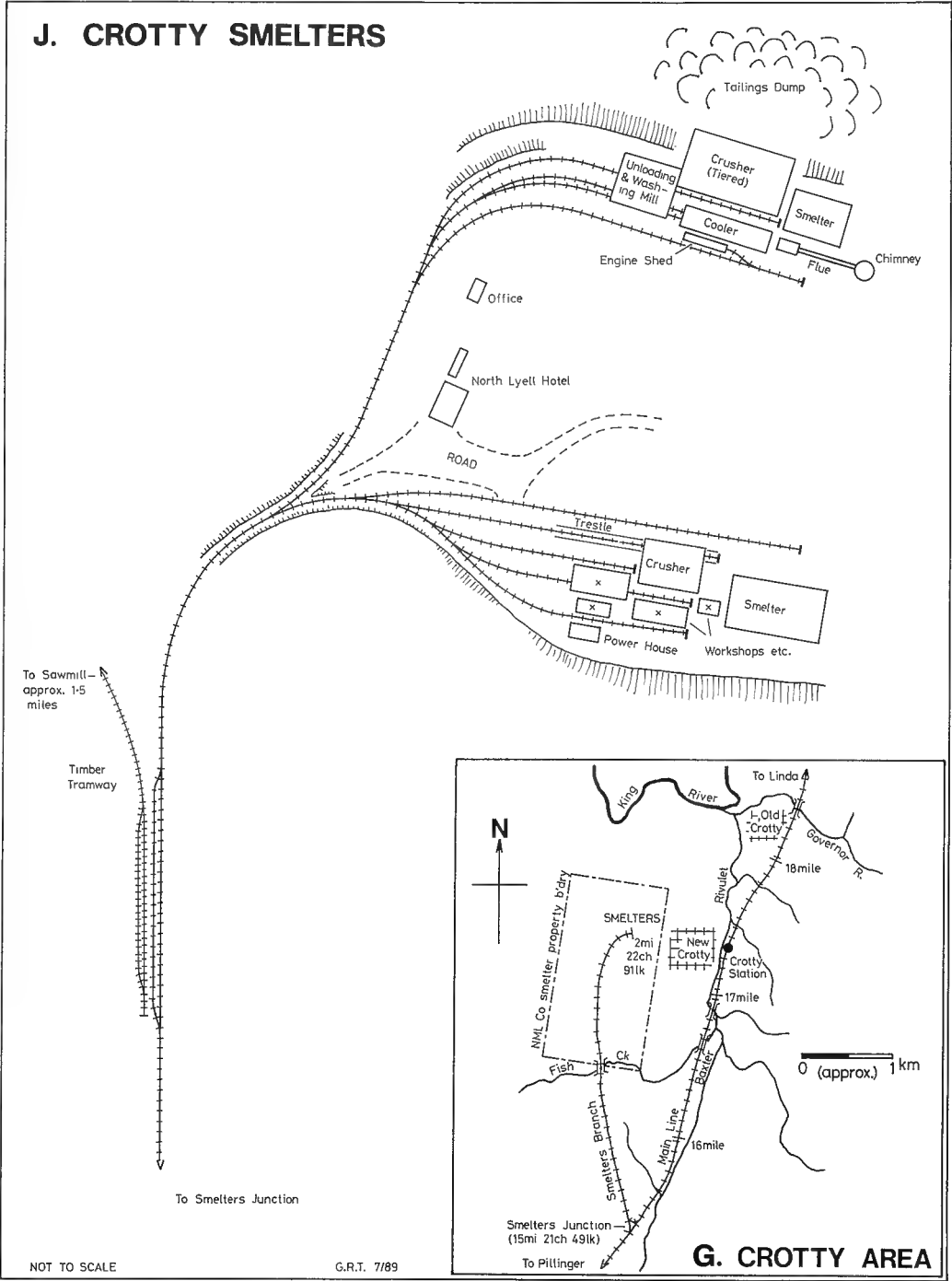
Crotty to Linda

From the junction, the main line continued north to cross Fish River and Baxter Creek before reaching Crotty station (17 m 30c). Railway facilities consisted of two loop sidings, a 30 ft long weather-board goods shed, platform, and galvanised iron 3-room cottage for the maintenance ganger. A loco water tank also existed here at one time, but may have been the one from the junction, moved to this more convenient location.

The town of Crotty straggled up the slope from the railway station to the west of the Baxter River to the smelters. There were the usual houses, cottages, shops, a church, school and two privately owned hotels. The whole site was dominated by the lofty buildings of the smelters and their 90 ft (27.4 m) high brick chimney, which in turn was eclipsed by the mist-shrouded peak of the mountain itself. In 1902-03 there were some 900 people in the town, most of them company employees and their families.

After leaving Crotty, the railway descended through heavy earthworks to cross the Little

J. CROTTY SMELTERS





Railway traffic was in decline when this photograph was taken of Linda station c1918.

State Archives of Tasmania, courtesy Lou Rae

Governor and Governor Rivers on timber bridges, each about 100 ft long, with three or four smaller bridges across tributary streams. At the 19 mile the line crossed the most impressive structure on the line, the King River bridge, which stands to this day as one of the most significant monuments on the railway (see Part 1, *LR.105*, p.12). The line climbed again to 800 ft asl (244 m) and crossed button grass plains, before rounding the northern spur of Mt Owen, and entering the Linda Valley.

The railway reached Gormanston Junction (26m 26c) where there was a short loop siding and, possibly later, a small goods shed. The main line continued over easy country to cross the Linda River by a 160 ft (49 m) bridge at the 27 mile, then ran up a 1 in 43 grade to Linda Station (27m 70c), which was 930 ft (283.5 m) asl. Railway facilities consisted of three sidings, with the main building a weatherboard goods shed, 41 ft 6 in long, with booking office inside and serving a short high platform. Locomotive facilities consisted of a galvanised iron shed, 101 ft long, with concrete inspection pit and cleaners quarters attached. Water was supplied by a 3450 gallon capacity wooden tank connected to the Gormanston town water supply. A 45 ft diameter turntable was supplied, but never

installed.

Gormanston Branch

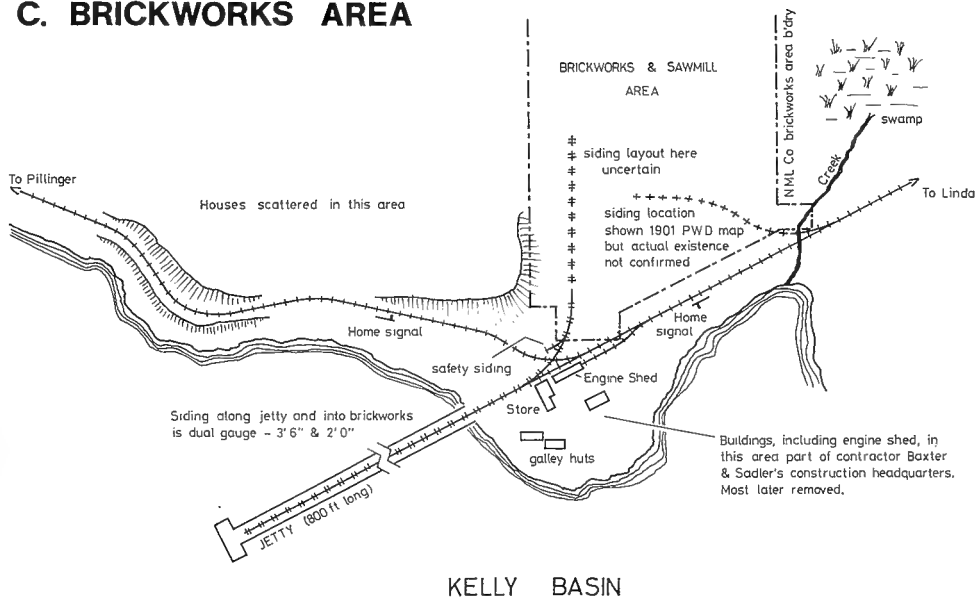
The branch to Gormanston left the main line at what was originally a single line connection, but became a triangular junction some time after 1903. It climbed on a continuous 1 in 30 grade through heavy earthworks and around a semicircle, to enter Gormanston station 2m 24c from the junction. Here there was a loop siding, weatherboard goods shed with booking office and high level platform outside and station master's office attached. A short siding curved away to serve ore loading bins 44 chains away at the bottom of the South Lyell mine haulage.

Permanent Way

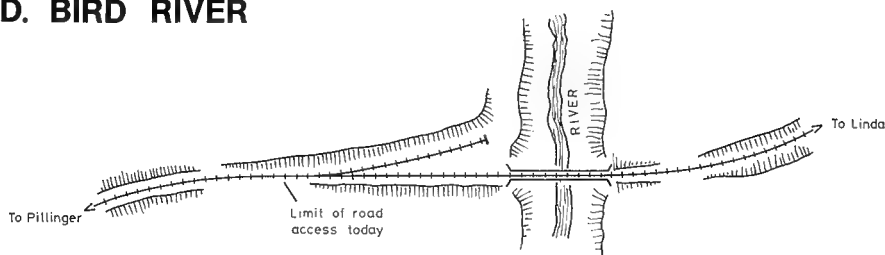
The total length of the line is usually given as 27 miles 70 chains 11 links (44.6 km) for the main line, to which must be added 5 miles 55 chains and 50 links (9 km) for the branch lines. There were also 4 miles 50 chains 20 links (5.4 km) of sidings at various locations, giving a total permanent way of 38 miles 15 chains 81 links (61.1 km).

The permanent way was laid throughout with 50 lb (20.7 kg/m) rails laid on gum sleepers, 6ft 6in x 9in x 4 in (1980 x 229 x 114 mm) set at 2ft 4in centres. Curves of less than 10 chains had sole plates

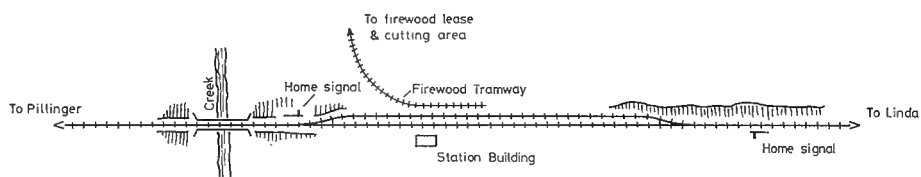
C. BRICKWORKS AREA



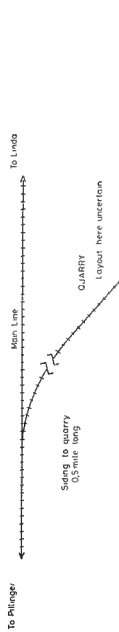
D. BIRD RIVER



E. DARWIN

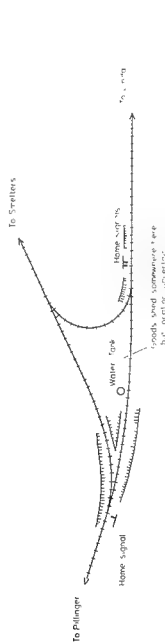


F. DARWIN - LIMESTONE QUARRY SIDING



NOT TO SCALE

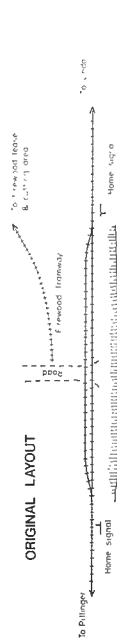
H. SMELTERS JUNCTION



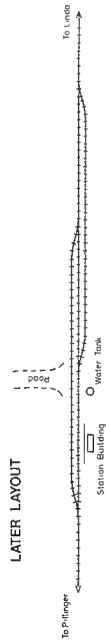
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K. CROTTY

ORIGINAL LAYOUT

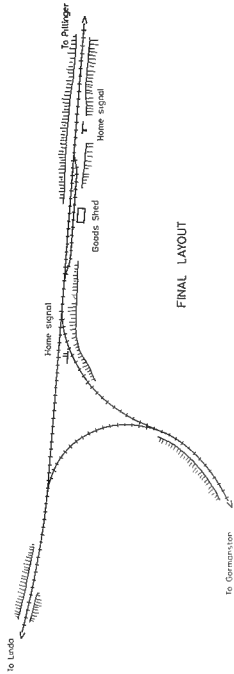


LATER LAYOUT



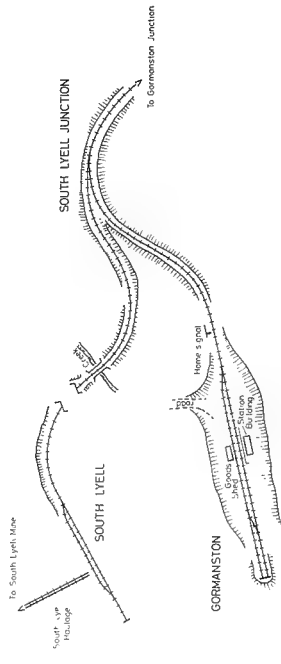
G.R.T. 7189

L. GORMANSTON JUNCTION



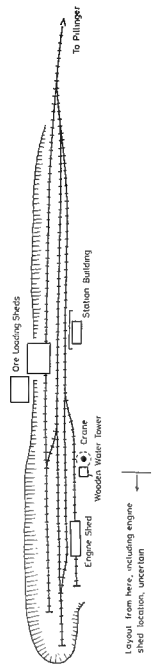
NOT TO SCALE

M. GORMANSTON AREA



NOT TO SCALE

N. LINDA



NOT TO SCALE

under the rails and braces on the outer rails of the curve. Half the line was ballasted with waterworn quartz and the other half with angular broken quartzite. Ballast was laid to a depth of 6in under the sleeper.

Train Control

Trains were controlled by a telephone block system, with cabins at Kelly Basin, 6 Miles, 10 Miles, Darwin, 13 Miles, Smelters Junction, Crotty, 17 Miles, Linda and Gormanston. In all the reports on the railway, only the three signals at Smelters Junction are mentioned officially, although photographic evidence shows other stations did have them as shown in the layout diagrams. Railway signalling by this time had reached quite an advanced stage and, for such a well equipped railway, the signalling appears quite basic. However, the traffic was never very heavy and the system was apparently quite adequate.

The Mining Field

The Linda Valley

On entering the Linda Valley, railway passengers were confronted with the starkness of bare hills and gullies devoid of any growth as might be expected of a battlefield. A common belief held by many people right to this day is that the bare hills are the direct result of sulphur fumes from the Queenstown smelters. This is only partly true. In fact the condition came about through a combination of four factors. Initially the rain forest timber was cut down to feed the never satisfied furnaces of the mine boilers and smelters. Any regrowth was quickly killed by the sulphur fumes from the smelters which pervades the surrounding air. Successive fires in summer raged through the sulphur impregnated stumps until no growth was left. Finally water completed the cycle. The heavy rain washed the top soil down the slopes and into the streams, leaving the area with its stark appearance.

Gormanston was the largest town in the Linda Valley. It was named after Lord Gormanston, Governor of Tasmania. By 1898 it was considered large enough to rival Queenstown and it became the seventh largest town in Tasmania in the early years of the present century. There were four hotels, a band hall, miners' hall, and two churches. Shops and businesses, including a number of mining company offices, lined the main streets.

Directly to the north of Gormanston, the railway terminus led to the establishment of a further town, Linda Valley, generally abbreviated to just Linda. With two hotels, a billard room and the usual shops, it never grew to rival Gormanston, although

favoured with the miners because it was closer to the main mines and enjoyed a more protected position from the wind and violent storms which frequented the valley.

Further up the ridge was a true mining town, North Lyell, which took its name from the nearby mine. Its centre was a large 18 room hotel, while there were boarding houses for the miners, a number of shops and a straggling collection of miners' tents and huts. Smaller settlements also developed along the ridge around the mines and leases. Here the sparse accommodation of the miners shared space with mine buildings, mullock heaps, stables, smith forges and charcoal kilns. The three towns and smaller settlements were home to some 2500 people in 1902-03.

Life on the Mining Field

It requires some imagination on the part of the reader, steeped in the affluence of the present day, to visualise just how different life was on the Mt Lyell field at the turn of the century. The mining field was very much a man's preserve, particularly during the development phase. The extreme of the climate demanded an iron disposition. The men lived initially in tents, but as permanence emerged, they constructed small wood and iron single room huts, usually as a community undertaking performed on the only holiday in a week — Sunday.

There were few women on the field in the nineties, and even as their numbers increased in the early 1900s, they were mainly confined to the towns. The female presence soon demanded better living conditions and, in the towns, the little huts were replaced by more respectable homes. However, these were still very basic and many were no larger than two rooms. The climate deemed a proper roof and inevitable fireplace, which served as both cooking place and interior heating source. Butchers and bakers established themselves, but a scarcity of arable land meant that fresh fruit, vegetables or milk were luxuries and the latter, like many other products, was only available in tinned form.

The inhabitants of the mining towns had to provide their own entertainment. In keeping with the vigorous life of the fields, there was an air of gusto in their activities. Sports, such as athletics, wood chopping and boxing were popular events. Such activity brought with it a strong thirst which was well catered for by the many hotels! Political meetings, which had a sparkle often lacking today, were also popular. Men in those days seem to have been strong orators. There was also a strong passion for marching and people did so at the least



Gormaston demonstrated the attributes of a pioneer mining town early this century.

H Judd, Tasmanian Museum & Art Gallery

initiative. This led to the formation of bands to accompany the marches and to provide musical entertainment. Some of the bands were quite successful in competition and went as far afield as Hobart and the mainland to compete with honour and success.

When Australia took part in its first major war, The Boer War in South Africa from 1899 to 1902, the people of the Mt Lyell field supported the effort with a patriotic and fanatical enthusiasm. Events such as the Relief of Mafeking were celebrated by processions and mass jubilation with an intensity unknown since, even for the two World Wars.

The spiritual needs of the population were well served by representatives of the Anglican, Catholic, Presbyterian, Methodist and Salvation Army denominations. Miners have always enjoyed music and choirs, both accompanied and unaccompanied, found favour at local concerts, performing both religious and secular music. Travelling shows, music hall stars and live theatre were also popular, though most of the latter was performed in Zeehan. A trip to this town was an adventure in itself.

The cold and damp atmosphere of the mining field led to a desire by many residents to escape from it whenever possible in the little time to spare, although low wages prevented them from going far. The railway provided a popular means of escape and was used as a mode of transport to the coast at special low fares. Miners picnics or a trip on the harbour offered special treats.

Communications were basic and slow. The railway offered the best means of getting around the area. At Mt Lyell, the only formed roads were between the main towns of the field; elsewhere rough tracks had to suffice. Horses or walking were the main means of getting around, although mine tramways provided transport for miners in some parts. Coach services were used for longer journeys, such as between Queenstown and Gormanston. News of the outside world came by telegraph and was extended to the public by two newspapers, the *MY LYELL STANDARD* and the *ZEEHAN AND DUNDAS HERALD*. Papers and overseas, although dated, came by ship and train from the mainland and overseas.

Although the area may not have been an attrac-



North Mt Lyell township in its heyday.

Courtesy Melbourne University Press

tive place in which to live and work at the turn of the century, the era has a certain charm to today's visitor. Important developments in Australia's history were being enacted and the artifacts of these activities now draw tourists eager to see and understand for themselves. While much of the old atmosphere has now disappeared, there is still sufficient there to remind us of the area's vigorous past.

The Impact of Amalgamation

When the news of the amalgamation of the two companies was made public in May 1903, an air of gloom quickly spread amongst the North Mt Lyell company employees and through the company towns. The effect was probably greatest in Crotty, where the population was reduced from 900 to around 30 in the space of one month. People just packed up and left. In July, workmen began dismantling the smelters and all re-usable material was either transferred to Queenstown or sold, some of it going as far away as the copper mines of

Chillagoe in north Queensland and Broken Hill in western New South Wales. The material was first moved to Kelly Basin by rail, from where it was shipped either to the mainland or, in the case of material for Queenstown, to Regatta Point for the rail journey to its new location. Brick buildings at Crotty were stripped to mere skeletons and wooden buildings were quickly reduced to firewood.

The impact of the amalgamation was so sudden that inbound cargoes at Kelly Basin were just abandoned, or remained on vessels on which they arrived awaiting a decision on their new destination. The harbour town of Pillinger was also drawn into the net of desertion. The port continued to function on a reduced scale and the railway maintained its headquarters there for the meantime, but closure of the brickworks and sawmill saw the desertion of that end of town. At Darwin, the limestone quarries closed, causing some reduction in population, but the sawmill continued to function as a supplier of timber and firewood to the new

company.

Up in the Linda Valley, building business in the three towns quickly faded as people began to leave, although all three towns survived on a smaller scale. The amalgamation also brought consolidation of mining interests. Many smaller mines closed, never to reopen, and the miners from there and their families packed their belongings and left. A number of North Mt Lyell employees made their way to other parts of Tasmania or crossed to the mainland to seek work in other mining towns or industries. It was a sad, but not unexpected end to the mining boom.

A rise in copper prices led to a mining revival in the years 1905 to 1907 and several closed mines reopened. Business picked up in the Linda Valley, with Linda and North Lyell faring better than Gormanston, as they were closer to the mines. The end of 1907 saw another slump return and, in the years leading up to the First World War, the Mt Lyell company took advantage of the quiet period to increase its hold on the field.

Later Gormanston featured prominently in a scheme by Mt Lyell's mine manager, RM Murray, to provide improved housing and facilities to attract good miners to the field. The plan received Board approval, but the War put paid to the idea. It was revived and implemented on a reduced scale in the 1920s as a joint company and Government venture, when improved houses and better shopping and recreation facilities were constructed. There was now a strong incentive for miners to abandon their old towns in favour of Gormanston, but closer proximity to the mines had a strong hold. Linda continued to survive, but the last hotel closed its doors in 1952. Only a handful of residents remain. The relics of a former era are visible from the bitumen road which now links Hobart and Queenstown, via Gormanston Gap. North Lyell had long since disappeared and in its place was a massive open cut mine.

Gormanston, which was the least liked of the various company towns, continues to function as such, with 50 or so residents. A skeleton of its former self, it is really just a mountain outpost of Queenstown. The valley retains its stark atmosphere and all around is scattered the flotsam and jetsam of the mining era.

Railway Operations

Passenger Services

Train operations under the North Lyell company commenced on 5 November 1900, when one of the new 4-6-0 locomotives ran a train of ore, no doubt using the new hopper wagons, from Linda to Kelly

Basin. This was a trial run and may have been for the purposes of testing the newly completed King River bridge. Trial passenger trains were operated on 11 and 18 November 1900, when it was noted that journey time for the 28 miles was 1 hour 33 minutes, with three stops totalling 15 minutes.

Public services commenced on 17 December 1900. From that date, Sundays excepted, the following daily timetable applied:

Down Trains:

Kelly Basin	d	8.30 am
Linda	a	10.30 am

Kelly Basin	d	1.45 pm
Linda	a	3.45 pm

Up Trains:

Linda	d	11.00 am
Kelly Basin	a	1.00 pm

Linda	d	4.15 pm
Kelly Basin	a	6.15 pm

Stops would be made to pick up and set down passengers at Gormanston Junction, King River, Darwin and 10 Mile. All trains were mixed with 1st and 2nd class passenger accommodation attached. It was noted that passengers by the morning train from Zeehan to Strahan could leave Strahan by the 10.00 am daily steamer to catch the 1.45 pm train to Linda. In the reverse direction, through passengers went down from Linda on the 11.00 am train to join the steamer's return journey to Strahan, where they could catch the evening train to Zeehan.

Excursion trains featured prominently in the operations of the North Lyell railway, particularly in the years up to the First World War. Over the Christmas and New Year period of 1900-1901, for example, excursion trains were run on 25, 26 and 30 December and 1 January, departing Kelly Basin at 6.00 am and Linda at 8.30 am, with the return journey departing Kelly basin at 4.00 pm and Linda at 6.15 pm. The train on New Years Day conveyed some 450 passengers, with the 4-6-0 train specially decorated for the occasion. The Union Steamship Company vessel ss *OROWAITI* conveyed excursionists from Kelly Basin to the Gordon River as an added treat.

Passenger accommodation was insufficient to meet the heavy demand on these occasions and temporary accommodation had to be provided by wooden seating in the brake vans and bogie open wagons. A timber frame with tarpaulin cover gave protection from the elements in the latter case.

From mid-January 1901, weekly excursion trains were planned, subject to favourable weather, run-

ing each Sunday until Easter, for the special return fare of 5/-. The morning train from Linda was timed to meet with the steamer to Settlement Island. At times of bad weather, the trains did not run and this resulted in a flood of letters to the editor of the local paper complaining that no prior warning of the cancellation was given!

The public timetable which became effective on 1 February 1901, showed little change to the original of late 1900, and was as follows:

Down Trains:

Kelly Basin	d	8.15 am
Linda	a	10.15 am
Kelly Basin	d	2.30 pm
Linda	a	4.30 pm

Up Trains:

Linda	d	11.00 am
Kelly Basin	a	1.00 pm
Linda	d	5.00 pm
Kelly Basin	a	7.00 pm

Stops to pick up and set down remained the same, with the addition of a new one at Jukes Track. A similar timetable continued until early 1903. With the collapse of smelting at Crotty in early 1903 and the resultant downturn in the mining industry, the train service was reduced to one mixed train each way daily, running to similar times at the first Down train and departing from Linda early in the afternoon.

The King River stop was changed to Crotty after establishment of the smelting township there toward the end of 1901. Stops at places like Lake Jukes Track, 10 Mile and Bird River seem to have been conditional on whether there were passengers or goods to be picked up or set down. No intermediate times were set down in the published public timetables, but would have been in a working timetable. Regrettably, none of these seem to have survived, which is unfortunate as such documents usually contain a wealth of information about a railway and its operations. One can only surmise that, in common with other railways of its type (the Chillagoe Railway in Queensland for example, for which WTTs have survived) the working time table consisted of only one or two sheets issued in similar manner to Train Notices with the notation 'until further notice'. Special train notices would have been issued to cover any unusual or additional operations.

Gormanston Branch

The observant reader will have noticed that the public timetables made no mention of the Gormanston branch, though there was a stop at the junction. This line did not open until early 1901. It is interesting to note that Gormanston rated a full stationmaster, whereas Linda, the main operational terminus, had only an assistant or sub-stationmaster. The operation of a regular service on the branch is not mentioned in contemporary reports, although it seems certain that the daily mixed train at least would have transversed the line; main line running times were sufficient to allow a side trip. With 1 in 30 grades, the line would not have been easy to operate. Trains from Kelly Basin probably went engine first up the bank, ran around and returned to the junction, ran around there again, and proceeded to Linda.

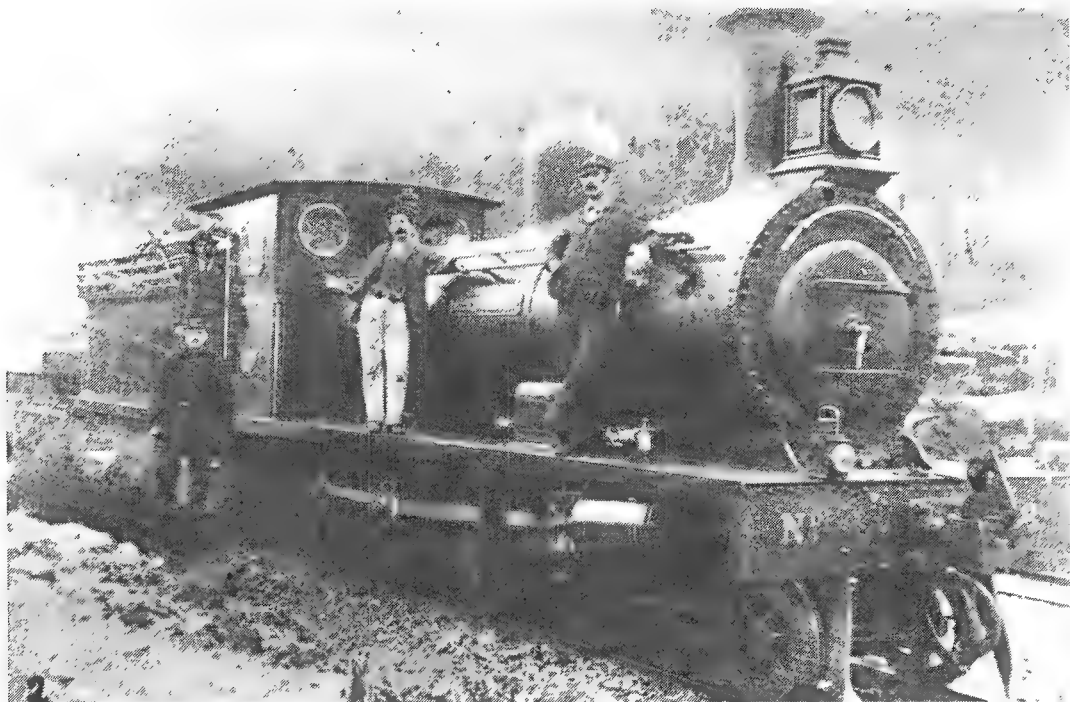
Goods Trains

Goods trains would have run as and when required. As the mining area developed, goods traffic would have been beyond the capacity of the daily mixed trains. A case in point would have been during construction of the smelters. As there were no suitable roads from Kelly Basin and with the animosity between the North Lyell and Mt Lyell companies preventing much movement over the Gap from Queenstown, nearly everything by way of freight connected with the North Lyell company would have been moved by rail from Kelly Basin. Building materials (from both overseas and the company brickworks and sawmill on the harbour), mining equipment and machinery, and supplies for both the communities and the mines would have featured prominently on the freight notes.

All the machinery for the Crotty smelters was moved by rail from Kelly Basin and, with the obvious size of some pieces, this would have been no easy task, particularly with a tunnel en route. One wonders if this was one of the reasons why the tunnel was opened into a cutting. After establishment of the smelters, there were inward shipments of coal, ironstone and limestone. A train conveying such items on 18 October 1902 was reported as being the heaviest train load, at 500 tons, ever seen on the line. Initially up traffic consisted of ore to Kelly Basin for shipment overseas; later it went to the smelter and matte was taken onward to Kelly Basin.

Locomotive Use

All trains were operated by the three 4-6-0s until 1902. One engine would have sufficed to operate the twice daily mixed trains, with an additional engine kept in steam to cover breakdowns and shunt



These North Lyell railwaymen demonstrate pride in their operation as they pose beside new Avonside 4-6-0 Locomotive No. 2. Winters Studio, Burnie.

the yard at Kelly Basin. The third engine probably occupied its time working goods trains as required. There would have been occasions when all three locomotives were on line at once (eg the annual picnic). Little margin was left for breakdown or overhaul, although there don't appear to have been any problems in this area. The arrival of the Shay geared locomotives in 1902, although not really suited to North Lyell operations, probably provided some relief with the goods traffic.

Traffic

Statistics for railway operation under the North Lyell company are only available for 1901 and 1902. Only in 1902 was there any real competition between the rival railways. With nearly 90,000 tons of goods traffic and 17,000 passengers, this resulted in a somewhat doubtful victory for the North Lyell railway. Although the line was seven miles longer than the Mt Lyell railway, the larger North Lyell tender locomotives could haul a load (225 tons) three times greater than the Mt Lyell tank engines (75 tons) at a third of the cost. Moreover, they could haul their loads right through over grades no steeper than 1 in 40, whereas the Mt Lyell trains had to be

split into sections for the ascent of the Abt rack section with grades as steep as 1 in 16.

The official statistics for the North Lyell railway operations in 1901 and 1902 were as follows:

	1901	1902
Receipts		
Passengers	15,577	16,878
Revenue	£2411/5/1	£2183/9/3
Rents (Revenue)	£47/7/-	£9/2/6
Goods, minerals & parcels	38,186 tons	89,625 tons
Revenue	£10,464/4/8	£14,823/-/9
Total Revenue	£12,923/6/9	£17,015/12/6
Expenditure		
Maint., works & stations	£4280/2/5	£4431/8/11
Locos, carriages & wagons	£3319/11/4	£5625/8/4
Traffic expenses	£2471/19/8	£2572/7/6
General charges	£411/3/5	—
Total Expenditure	£10,482/14/10	£12,269/4/9
Miles open	33	33
Total cost of railway	£316,638	£321,290
Cost per mile	£9,595	£9,736/1/3
Train Miles run	38,548	45,544
Engine miles run	53,779	67,893
Profit	£2,440/11/11	£4,746/7/9

Railway Staff

The number of staff employed under North Lyell ownership is not shown in official statistical returns, although it is unlikely to have exceeded 100 and may have only been about half that number. After amalgamation staff numbers were considerably reduced, with 26 in 1914-15 being the maximum reached.

Railway staff originally came under the control of the Chief Superintendent, Captain Anderson. He was replaced by LC Trent, who became General Manager in 1901. He seems to have taken more than a passing interest in railway matters and was responsible for ordering the Shay locomotives. Trent was assisted in his duties as overall controller of the railway by JJ Ware, Traffic Manager, who had previously been a stationmaster on the Mt Lyell railway, and AE Edleston, who was Locomotive Superintendent.

By early 1903, the Railway Superintendent was JM Sinclair, with JP Bray as Assistant Superintendent. Both men had come up through the ranks since joining the railway's employ in 1898. Edleston had retired as Locomotive Superintendent and his place had been taken by RC Eyles. The stationmasters at Kelly Basin and Gormanston were E O'Neil and H Linthorne respectively, whilst only Linda rated a sub-stationmaster, D Baird. Duties at Darwin and Crotty would have been handled by a porter or the train guard, while operations at the smelters were probably handled by staff there.

The Railway After Amalgamation

Documentation

One of the first acts of the Mt Lyell company after the 1903 amalgamation was to make a proper inspection of its new acquisition and to assess the capabilities of the railway and suitability for retention. Two inspections were undertaken. The first was by the Mt Lyell Supervising Engineer, C Carus Driffield, a South Australian railway engineer who had been responsible for construction of the major part of the Mt Lyell railway. His report, dated 15 June 1903, although well done and offering good advice, is somewhat coloured by his dislike for anything North Mt Lyell. Despite this, all his proposals were implemented and it is undoubtedly on his advice that the railway was retained, so we can forgive him for his obvious bias!

As second unsigned report, some pages of which bear the signature as correct of the Government Inspector, WP Hales, of 25 March 1904 contains more factual data about the railway. It is indeed

fortunate for the railway researcher that copies of both these reports have survived.

An added bonus to these reports is a magnificent set of photographs of the railway's locomotives and rolling stock. The Mt Lyell company sent a Queenstown photographer, AS Bransgrove (who was probably the company's official photographer) across to Kelly Basin. Here he photographed an Avonside 4-6-0 locomotive, all three Shays and eleven pieces of rolling stock representing all the types in use on the railway. Prints of these have survived.

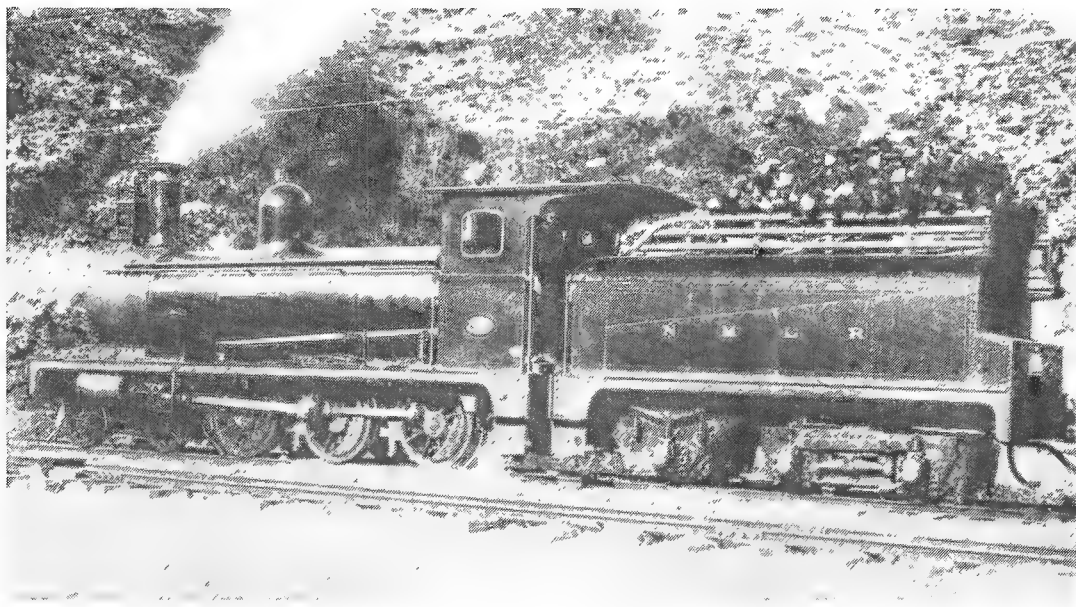
Options for the Railway

Driffield considered the railway well constructed and found it in good condition. He understood that the outlook for the future of railway operations was not bright, but because of the capital invested in it, closure and sale of the assets would provide inadequate compensation. He noted that the railway transversed valuable timber country and undoubtedly held the key to any future development in the mineral country on the eastern side of the range at Mts Dukes and Darwin, although this was largely unexplored at that time. Another possibility was to sell the railway as a going concern. Driffield considered that the Great Western Railway Company, who were planning a railway to Mt Lyell from Glenora on the Government Railways Derwent Valley line from Hobart, may be interested, although nothing had been done on this project due to Government indecision.

It was certain that revenue from operations would fall short of meeting expenditure and the only solution was to reduce operations and expenditure in order to make continued operation of the line viable. Driffield suggested a reduction in the daily train services to once per week, although he considered it would be necessary to continue the daily service until July 1903 and then operate a thrice weekly service until September to allow the residents of Crotty and Kelly Basin to remove their buildings and effects if desired.

Maintenance

Maintenance of the railway was a major item of expenditure and all concerned were well aware of its importance. In this respect, the Mt Lyell company was lucky that the line had been well constructed and maintained. Driffield proposed that four caretakers be employed to protect the buildings, plant and other interests at Crotty and Kelly Basin. Maintenance was to be performed by two 'flying' gangs of eleven men each: one based at Kelly Basin and the other at Crotty. The Kelly Basin gang would be responsible for the first 17 miles of track and



Avonside 4-6-0 locomotive showing tender wheel arrangement. Note the wood fuel. IK Winney collection

would require a light engine for daily use, while the Crotty gang would cover the remaining 11 miles and could use a hand-operated trolley. These two gangs were considered adequate to maintain the line in fair condition for the light traffic proposed and, in the event of a major slip occurring, temporary assistance could be sent from Mt Lyell.

Management

In the railway management area, Locomotive Superintendent Eyles and Assistant Railway Superintendent Bray were both given notices and made redundant. The stationmasters at Kelly Basin and Crotty and Sub-Stationmaster at Linda were retained for the time being until reduction in train services was made in late 1903 and they would also be declared redundant.

The Railway Superintendent, JM Sinclair, was considered a most valuable person in the light of his experience and knowledge of the railway and its operations. He was well liked and adapted to the changeover easily. It is certain that his hard work was a major contributing factor in keeping the railway open and running in a satisfactory manner.

Operations

A driver and fireman were required for the weekly train, and the driver was considered capable of operating the light engine single-handed at other times, whilst the fireman remained on shed duty doing cleaning and light maintenance. The light

loco was to be steamed daily so that it was always available in the case of an emergency. The guard on the weekly train would act in lieu of a stationmaster at Kelly Basin and an officer from the mine could be sent down to Linda and/or Gormanston on train day to perform the railway duties. His wages on such a day would therefore be debited to the railway department. To handle any major maintenance on the locomotives a fitter could be sent from Mt Lyell as required.

The railway continued to be fairly busy after amalgamation, although most of the traffic was now in the Down direction as residents and their belongings were moved out. Drifffield's recommendations were followed and the daily service ceased at the end of July 1903. Thereafter thrice weekly services operated on Mondays, Wednesdays and Fridays until September 1903. Special goods trains were run at least twice a week to transfer machinery and furnace materials from Crotty to Kelly Basin for onforwarding to Queenstown.

From September, the Gormaston and Crotty smelters branches were closed and the weekly service, running on Wednesdays, was instituted. Although this service was considered sufficient to meet most requirements, provision was made to run specials — passenger or goods — as required.

The Avonside 4-6-0s were the main motive power and it seems unlikely that the Shays did much work

after the merger. Motive power was augmented by the arrival of the 0-6-0ST *MALVOLIO* (Sharp Stewart 2030/1876) in 1903. This was considered more suited to the emergency needs of the maintenance men when slips occurred than the large 4-6-0s. It probably acted as shunter as well, but the weekly train remained the preserve of the Avonsides.

In the years leading up to the First World War, the railway continued to be well maintained. During this period the wooden bridgework was maintained and repaired and a good deal of track relaying was undertaken. The yearly slips and washouts continued to place a considerable strain on operations, with a consequent drop in revenue and rise in expenses to put things right. All three 4-6-0s and the 0-6-0ST were maintained in working order and repairs and maintenance to rolling stock continued.

The railway enjoyed a brief revival in 1905-1907, when the Blocks Mine built a concentration mill at North Lyell Creek. This began producing in August 1904. Copper concentrate from the mill was railed from Linda to Kelly Basin for shipment to Wallaroo in South Australia for refining. These shipments continued until September 1907, when the mine gave out.

Excursion Trains

The railway remained popular for excursions. These involved special passenger trains, the use of one or more of the 4-6-0s and quite a deal of the railway's rolling stock. As well as church groups, the Mine Employees Picnic, held in February each year, frequently went to a location on the North Lyell railway. For example, in 1906 it was held at Darwin and in 1909 at Kelly Basin. These picnics attracted many mine employees and their families from Linda, Gormanston and Queenstown. Those from Queenstown had quite a journey even to get to the North Lyell railway. They were first conveyed from Queenstown on special trams on the Mt Lyell 2 ft gauge system, using the Krauss 0-4-0WTs, to the foot of the Mt Lyell haulage. They were conveyed to the top of the haulage and continued their journey by foot to either Linda or Gormanston station to join the excursion train.

The excursion to Kelly Basin in 1909 was one of the largest, attracting some 1700 people, including 300 from Queenstown. On this occasion, three special trains were operated from Gormanston, which confirms that this branch, although officially closed, was used on such occasions. The trains departed at 8.00, 8.30 and 9.00 am and no doubt comprised all the railway's rolling stock which could suitably be fitted out with temporary seating. The return trains were at 4.00, 6.00 and 9.00 pm. The

4-6-0s would have been extended bring their heavily loaded trains back up the steep 1 in 30 grades into Gormanston.

Following the provision of the 10-passenger Riley railmotor for the line in late 1907 or early 1908, the railway began advertising the vehicle as available for hire by tourists at weekends, either on a daily basis or for the whole weekend. Departure time from Linda was 9.00 am and arrival back at Linda at 6.00 pm. In the event that application for its use was heavy, the motor could also be run on weekdays, one of which had to be Wednesday. This meant that there would be two trains on the line that day, and presumably the motor crossed with the mixed train at some suitable location. Excursionists could also hire the company's motor launch *IMP*, for round trips on the harbour from Kelly Basin to Settlement Island, Birch's Inlet or the Gordon River. In the event of rough weather preventing such a trip which had been prearranged or paid, the company generously agreed not to make any charge!

False Hopes

Toward the end of the First World War, Crotty looked like becoming the site for a combined government and company sponsored hydro-electricity project, the dam for which would submerge a long stretch of the North Lyell railway. The Mt Lyell company contemplated the idea of constructing a new stretch of railway above the dam high water mark. A survey was made for the railway to cross the King River gorge on the dam wall, run up the Tofft River, and rejoin the old main line four miles from Linda. The deviation was estimated to cost £ 150,000. In the interim, the government withdrew its support for the scheme and it collapsed.

Decline and Closure

The collapse of copper prices in 1920-21 led to the Mt Lyell company making further economies and this, of course, affected the North Lyell railway. The company now began to press for complete closure of the line, but as it was the only means of communication with the small settlements at Darwin, Crotty and Kelly Basin, the government refused. This, however, did not stop the company making some changes. From 1922, locomotive operated services were cut back and confined to the 14 miles between Linda and Darwin, except for the odd Sunday excursion. This move saw the transfer of the centre of operations from Kelly Basin to Linda.

The shift in operations was due to the timber traffic. The railway was used almost exclusively



The Riley rail motor on a scenic stretch of line beside the Bird River.

Courtesy F Stamford

from 1903 to 1924 for the carriage of mining timber for the company's use and firewood for domestic use. Although the timber industry had begun to decline after 1918, timber was still carried on the line, if in decreasing quantity, right up to closure.

The remaining portion of the line from Darwin to Kelly Basin was now mainly used by the railmotor twice a week for the carriage of mails and supplies to the remaining few residents at Kelly Basin. Even this service was discontinued from July 1924 after the company had purchased one of the remaining properties at Kelly Basin in an attempt to close the line.

In 1924, the Public Works Department held an enquiry into the company's request to close the North Lyell railway. Eventually the government agreed to close the Kelly Basin to Darwin section, and this was ratified by *The North Mount Lyell and Macquarie Harbour Railway Act: 1924*, passed on 13 January 1925. The company began assembling railway equipment, including locomotives and rolling stock, at Kelly Basin so that it could be sold or transferred elsewhere. Track lifting began and rails from Kelly Basin to 9 Mile were taken back to the harbour. Along with two Avonside locomotives and other rolling stock, these were shipped in lighters to Strahan and then taken to Queenstown. The rails on the section from 9 Mile to

Darwin were lifted and taken to Linda, from where they were roaded over the Gap to Queenstown.

The railway saw only sporadic use until, at the end of 1927, the company made application to the government for final closure. Once again, they had preceded this by purchasing the final properties which could have prevented closure from taking place. Approval was forthcoming, covered by an Act with an identical title to the one above and dated 1928, which received assent on 15 January 1929.

Avonside 4-6-0 No.2 was steamed and was used to perform the demolition duties as the last remaining engine on the line. The track was lifted back to Linda and rail and equipment either stored there or taken over the Gap to Queenstown. Eventually most of the reusable equipment was shipped out over the years. One of the last and largest items to go out was the 4-6-0. It was dismantled in 1935 and taken over to Queenstown, en-route to new owners in Queensland.

The Area Today

Most of the railway has remained in remarkably good condition, helped by the fact that the Hydro Electricity Commission has reopened some 27 km of the formation as a road to give access to the Franklin River area. The HEC road branches off the railway formation just south of the confluence of the Nora River and Purgatory Creek and heads

away south-east.

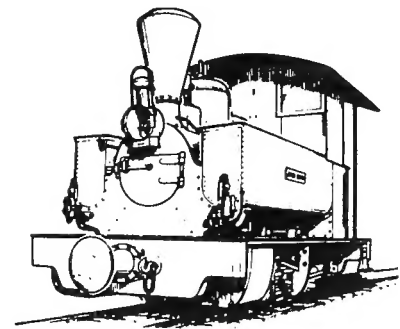
The railway formation was open to motor vehicles as far as Bird River, but recent landslides may have blocked the formation prior to this. Certainly, from Bird River to Kelly Basin the journey must be undertaken on foot. Whilst this part of the journey can be accomplished in one day, it should not be undertaken lightly and any walking party should be well equipped. To get the best of the trip, it requires two days with an overnight stay at Kelly basin. It is pleasing to know that a number of enthusiasts have made this trip and, therefore, provided valuable information about the railway and on its current state.

References

The article as been prepared from an extensive search of early newspapers, reports, articles and books. A full list will be published at the conclusion of the series. Key documents are:

- Mt Lyell Mining & Railway Company, records held in the University of Melbourne Archives
- Mt Lyell Mining & Railway Company, records held in the Tasmania State Archives, Hobart
- Tasmanian Public Works Department, records held in the Tasmania State Archives, Hobart
- Union Steam Ship Company of New Zealand, records held by the company.
- Mt Lyell Standard* newspaper
- Zeehan & Dundas Herald*
- Statistics of Tasmania
- Geoffrey Blainey, *The Peaks of Lyell*, Melbourne University Press, 4th ed 1978
- Lou Rae, *A History of railways and tramways on Tasmania's West Coast*, published by the author, 1983.
- Lou Rae, *The Abt railway on Tasmania's West Coast*, published by the author, 1988.

LETTERS

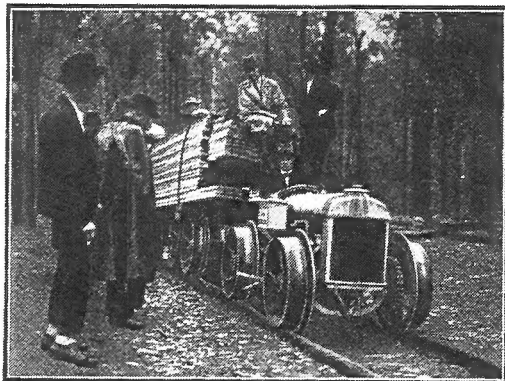


NATTRASS RAIL TRACTORS: LR.70, 75 AND 80

When browsing through the April 1928 edition of *Meccano Magazine*, I came across a brief article titled 'Logging in the Australian bush' which may be of interest to LR readers. It refers to a bush walk at Mount Macedon, 44 miles north of Melbourne, by a Jack Jones who describes coming across a group of loggers. The article mentions logs being transported by a water chute to sawmills. There a 'special apparatus' lifted the logs from the water, which were hauled by steam power to 'a huge circular saw 7 ft in diameter'. The sawn timber was transported by tractor to sidings three miles away. The accompanying photograph of the tractor was said to be taken by the writer.

Possibly, readers might be able to identify the tractor and the tramway involved.

**Bruce Douglas
Hawthorn, Vic**



Rail tractor at Mt Macedon c1927.

Meccano Magazine

EAST GRETA COAL MINING COMPANY NO.9

East Greta Coal Mining Company's locomotive No.9 was built by the Avonside Engine Company of Bristol (B/No. 1481/1904), the second of two standard gauge 0-8-0ST units built for the Company. It worked on the South Maitland coalfields until its sale in 1935 to the Mount Kembla Colliery. After sale of the colliery to Australian Iron and Steel (AI&S), it also worked at various other AI&S collieries on the South Coast. Laid aside in 1950, the locomotive stood at Cringilla until scrapped in 1956.

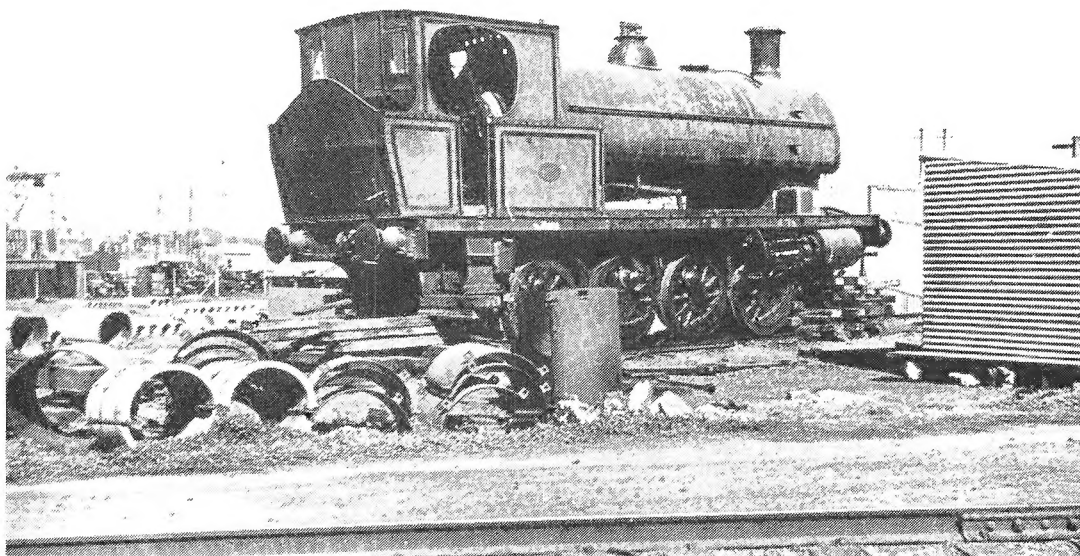
The late Gifford Eardley first documented the locomotive in his *Railways of the South Maitland Coalfields* (ARHS, 1969) and made the comment that 'it has been claimed that this engine was named *ASCENSION NO.1* when first built, but unfortunately the reason is now obscure'. Such a comment, given the normal tenor of Giff's writing, indicates that he was somewhat uncertain of the correctness

of the information.

I was reminded of this comment when recently reading an article by Frank Jux, 'Some Notes on Medway Industrials' in *Industrial Locomotive* No.45. One of the locomotives there detailed was named *ASCENSION* (Avonside 1480/1904) and worked on an Admiralty railway on Hoo Ness Island. The coincidence of the name and builder sent me back to the South Maitland history to find that East Greta No.9 had been the next locomotive constructed by Avonside.

A builder's photograph of B/No. 1480 also appears in an earlier article on the Hoo Ness Island railway (*Narrow Gauge* No.111) in which it is clearly named as *ASCENSION NO.1*. It seems at some point there was a transposition of detail between the two locomotives and that No.9 therefore never carried the name *ASCENSION NO.1*.

Craig Wilson
Pennant Hills, NSW



Avonside 1481/1904 stored at Cringilla.

ARHS Archives

NORTH MT. LVELL RAILWAY STATISTICS

There were no separate statistics shown for the year 1903. The year 1921-1922 was the last year in which private railway statistics were shown separately in the official returns. Up to 1910 statistics were reported by calendar year but from then they were shown by the now generally accepted accounting year, i.e. from 1st July of one year to 30th June the following year. For the sake of clarity and ease of reading, the amounts shown below are to the nearest £.

Miles Open: 1901 & 1902 33 miles
1904 to 1922 30 miles

In 1913-1914 only 28 miles were shown open and 2 miles at Kelly Basin listed not in use.

	1901	1902	1904	1905	1906	1907	1908	1909	1910	1910-11	1911-12	1912-13	1913-14
Passengers:	15577	16878	3763	3910	4911	4213	4221	5830	6247	3340	3351	4885	
Goods & Minerals: tons	38186	89625	5903	8562	10948	10397	6938	6912	10330	11115	10487	13752	15296
Train Miles:	38548	45544	8818	8576	7957	8667	6553	6860	7804	7145	7177	8346	10309
Gross Receipts: £	12923	17015	2614	3076	3800	2250	2276	3052	2975	2653	3675	4675	4424
Working Expenses: £	10482	12269	4338	3899	3674	4994	4000	4957	4787	4819	4691	4870	5936
Profit or Loss: £	2441	4746	(1924)	(823)	286	(1194)	(2750)	(2681)	(1735)	(1844)	(2039)	(1195)	(1261)
Locomotives:	3	6	7	7	6	4	4	4	4	4	4	4	4
Carriages & Wagons:	100+	106	107	106	65	65	60	59	59	59	65	59	59
Persons Employed:	na	na	na	na	na	17	17	17	17	na	20	18*	21*
1914-15	1915-16	1916-17	1917-18	1918-19	1919-20	1920-21	1921-22						
Passengers:	4646	4243	4039	3946	3905	3620	4106	1003					
Goods & Minerals: tons	16107	18621	17669	21247	15266	13034	13318	10197					
Train Miles:	10780	11012	10676	11598	9656	8470	8739	3711					
Gross Receipts: £	4424	4635	5157	6694	4822	4394	4415	3016					
Working Expenses: £	7073	6384	5718	7713	8704	8086	10410	6243					
Profit or Loss: £	(2649)	(1749)	(561)	(1019)	(3882)	(3692)	(5995)	(3227)					
Locomotives:	4	4	4	4	4	4	4	4					
Carriages & Wagons:	59	60	60	56	59	59	57						
Persons Employed:	26*	22*	20*	22*	21*	20*	21*	12@					

na — details not available

+ — does not include the two travelling cranes

* — persons employed were 2 salaried staff with the balance on wages and overtime

@ — persons employed were 1 salaried staff with the balance on wages and overtime